



## Area-wide Pest Management for Wheat

Management of greenbug and Russian wheat aphid

Volume 1, Issue 2

Winter 2003



**Scott Storey and Norm Elliot  
take field samples at a  
demonstration site in  
southwest Oklahoma. See how  
we sample fields, page five.**



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## Interview with the Interviewers

A key ingredient of our four-year project will be grower participation. In this first year, we will be asking growers to participate in focus groups and cost-of-production interviews. Our goal is to learn from growers. We want to hear about your past experiences with agricultural pests, your concerns, and the costs of pest control in your

ag production.

By working with small groups of growers in all of our study areas, we hope to learn about important regional differences in managing agricultural pests. We also hope that the focus group meeting days will be an opportunity for you to get acquainted with one another and with members of our project team.

### Sean Keenan

Sean Keenan will serve as moderator of focus group meetings. Sean began working with us this past fall as a Post-doctoral Fellow of the Department of Entomology and Plant Pathology at Oklahoma State University. He comes to us from

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### AWPM Contacts

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Utah State University where he completed his degree in Sociology.

Sean's role as moderator will be to pose discussion topics for growers about their experiences with agricultural pests. He will keep the discussion on track, but the producers

will be the experts and will do most of the talking. Sean will be in contact with you soon about focus group dates and locations.

**Paul Burgener**

Paul has designed our cost-of-production interviews and is looking forward to interacting with our participating growers. Either Paul

or his new assistant, David Christian, will attend each focus group to answer any questions you have about the interview.

**Dave Christian**

David Christian began working with Paul in January. He will be traveling to each of our study regions and conducting many of the interviews with producers. He is a

native of Gering, Nebraska and completed his B.A. degree at the University of Northern Colorado. Dave worked as an agronomy researcher with the Western Sugar Cooperative prior to joining our team. He now resides in Gering with this wife Kris, and two daughters, Molly and Mandy.

**Meet the guys who count**



**Dave Christian**



**Paul Burgener**



**Sean Keenan**

**Dave and Paul will work together on the economic end of the program, conducting cost-of-production surveys. Sean will conduct focus group interviews. For their contact information, please see page one.**

**AWPM: Demonstrating Fewer Bugs, Less Cost**

The goal of the Agricultural Research Service's Area-wide Pest Management for Wheat is not only demonstrating techniques in pest suppression but also demonstrating more cost effective ways for that suppression.

"It's to demonstrate management tactics that can be used on a whole farm basis rather than individual fields," said Dr. Norman Elliott,

USDA-ARS.

Elliott also said the idea for AWPM for Wheat evolved after the Russian Wheat Aphid (RWA) made its appearance in the United States in 1987.

The AWPM for Wheat proposal resulted from the culmination of research on the insects. The program will also examine other pests, such as weeds, and the importance of beneficial insects.

"This area-wide pest management program is important because it will provide producers with a complete package of cutting-edge technologies designed to maximize their productivity while reducing inputs," said Dr. David Porter, USDA-ARS. "Benefits of this program will flow to the producers, consumers, and the  
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environment.”

Through demonstrations, we will assess the relative advantage of various agronomic practices. Through focus groups and interviews, we will learn about grower preferences and experiences in dealing with agricultural pests.

To date, the USDA-ARS Area-wide concept involves several programs. These programs involve other pests such as the fruit fly, the codling moth and leafy spurge.

The USDA-ARS set its sights in 1994 on implementing IPM on 75 percent of the nation's farmland.

Elliott explained while Integrated Pest Management (IPM) generally involves individual growers and individual fields, the area-wide concept encompasses larger systems.

This requires sound ecological information about pests and their crop environment. It also requires agencies to work hand-in-hand with producers, industry, universities and Cooperative Extension. Developing this team effort is the goal of focus groups and educational programs.

“Once this program is implemented, we believe the AWPM technology package will become standard operating procedure for producers,” Porter said. “In the future, we will continue to monitor the spread and adoption of the AWPM program and provide updates in the technology as they become available.”

## **How we sample fields**

Our project team established 22 demonstration fields with participating growers. We will sample insects and weeds on these fields over the next four years.

Entomologists Gary Hein, University of Nebraska, and Kris Giles, Oklahoma State University, led the team in developing field-sampling methods.

“Project specialists in each state will provide their expertise in analyzing field samples,” said Giles.

For the winter wheat crop, samples will be collected on a bi-weekly basis in the fall and spring. We will also develop sampling procedures for rotational crops on these fields where applicable.

The project team began this fall by collecting soil samples and setting up weather monitoring equipment. They also checked any volunteer wheat for aphids and surveyed border areas for plants that may serve as aphid hosts.

After wheat planting, the researchers began collecting bi-weekly insect samples from 25 sampling points in each field. In Texas and Oklahoma, these sampling points have been mapped using a handheld GPS computer, or global positioning system.

GPS coordinates will allow field technicians to return to the same sampling points each time without leaving flag markers in the field.

The hand-held computer also allows technicians to enter insect and weed counts while in the field, which saves time and reduces errors.

“We hope to begin using this system at all project sites by next year,” said Dr. Norm Elliott, USDA-ARS.

Giles noted monitoring fields closely helps team members document the distribution of both pests and beneficial insects.

For example, the project team will be collecting samples of lady beetles when they are present to determine what other insects they may be eating.

Entomologist Kevin Shufran at the ARS lab in Stillwater will do the analysis. Shufran will conduct “gut analysis” of the lady beetle samples.

He will determine what the beetles have been eating by detecting DNA signatures of prey species in the analysis.

In developing field-sampling procedures, we tried to maximize data collection while minimizing intrusion to growers.

**See the Spring 2003 newsletter  
for more information on  
sampling.**



**Find out more at our Contacts page, located at [www.pswcrl.ars.usda.gov/AWPM](http://www.pswcrl.ars.usda.gov/AWPM)**

### **Dr. Phil Sloderbeck**



#### **Education:**

- B.S. 1974, Biology Education, Purdue University
- M.S. 1977, Entomology, Purdue University
- Ph.D. 1981, Entomology, University of Kentucky

#### **Research Interests:**

- Working in corn fields on the Bt corn hybrid evaluation trials and in soybean fields with the soybean stem borer
- A member of the Corn Rootworm Area-wide Management Project
- Helping to develop the Entomology Extension, the Southwest Area Extension Office, the Extension Plant Biotech and the Rootworm Area-wide Management Program web sites

#### **Some Duties:**

- Helping county Extension personnel with educational programs in insect pest management for southwest Kansas.
- Assisting county Extension agents, area farmers and crop consultants in solving insect pest problems.

### **Dr. Gerald Wilde**



#### **Education:**

- B.S. 1962, Entomology, Texas Tech University
- Ph.D. 1966, Entomology, Cornell University

#### **Research Interests:**

- Evaluation of insecticides and transgenic crops for control of pests attacking field crops in Kansas
- Evaluate and determine the effects of insecticides on beneficial insects and non-target organisms
- Screen and test for resistance to insect pests of sorghum
- Evaluate the effect of areawide management on insect pest populations

#### **Teaching:**

- ENTOM 612-Insect Pest Diagnosis. Diagnosis of plant damage by insects and mites, recognition of harmful insects and mites and beneficial insects.
- ENTOM 767-Insect Pest Management. A presentation to develop a sound pest management program.

**For contact information for Phil and Gerald, please see the bottom of page five**

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## **Reno County Extension Office**

Those working in county extension offices are vital to AWPM for Wheat. In Kansas, our project focuses on wheat production in Reno County.

Agriculture Agent Greg McCormack helped us identify growers for participation in the project. Reno County Office Professionals Jeri Leach and Shelley Charles helped make arrangements for our focus group meeting.

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Reno

Learn more about Reno County and other areas covered by our project by going to our project map:

<http://www.oznet.ksu.edu/reno>

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**Left: Cows grazing in a demonstration wheat field in southwest Oklahoma.  
Right: Tim Johnson uses a hand-held GPS computer to help locate areas for  
field sampling. The field is one of two in that region of the state.**

**In the Spring 2003 newsletter: Learn more about DNA analysis, focus groups, and GPS  
hand-held computers in the field.**